AMENDMENTS TO THE SPECIFICATION

Please amend the paragraph beginning on line 24 of page 1 as follows:

For data transmission, the secondary stations 122 and 123 first transmit request packets 124 and 125 to the central station 121 using a reserved channel ~~for reservation~~. After receiving the request packets 124 and 125, the central station 121 schedules timing for data packet transmission so as to reserve bandwidths for the secondary stations 122 and 123. And then, the central station 121 creates a response packet 126 for transmission to a channel for response.

A1

Please amend the paragraph beginning on line 12 of page 4 as follows:

However, in the first aspect, after ~~received~~ receiving one reservation request packet, a receiving station voluntarily and repeatedly transmits the communication reservation packet as long as the valid period is valid. In other words, a transmitting station only needs to transmit the reservation request packet once so that the once-reserved bandwidth assigned therefor is available for the duration of the valid period. In this manner, in the first aspect, the number of transmitting the reservation request packet is decreased, and accordingly the overhead can be reduced. Accordingly, it becomes possible to implement the communication system in which the bandwidths are effectively utilized.

A2

Please amend the paragraph beginning on line 18 of page 7 as follows:

According to a seventh aspect, in the fifth aspect, when the receiving station correctly ~~received~~ receives the reservation request packet from the transmission path, the probability value set to the request inquiry packet is relatively high.

A3

Please amend the paragraph beginning on line 20 of page 14 as follows:

The frame check sequence FCS is the code for the communication stations 1 receiving the request inquiry packet 101 to judge whether ~~or not~~ any error is occurred in the request inquiry packet 101, or to correct any error occurred therein.

A4

Please amend the paragraph beginning on line 24 of page 14 as follows:

A5

The receiving station 1_R sends out such request inquiry packet 101 to the wireless transmission path 2 so as to make an inquiry about whether ~~or not~~ any other communication station 1 is requesting for data communication (sequence $Seq1_1$).

Please amend the paragraph beginning on line 7 of page 16 as follows:

A6

The frame check sequence FCS is the code for the communication stations 1 receiving the reservation request packet 102 to judge whether ~~or not~~ any error is occurred in the reservation request packet 102, or to correct any error occurred therein.

Please amend the paragraph beginning on line 2 of page 19 as follows:

A7

The frame check sequence FCS is the code for the communication stations 1 receiving the communication reservation packet 103 to judge whether ~~or not~~ any error is occurred in the communication reservation packet 103, or to correct any error occurred therein.

Please amend the paragraph beginning on line 4 of page 20 as follows:

A8

The frame check sequence FCS is the code for the communication stations 1 receiving the data packet 104 to judge whether ~~or not~~ any error occurred in the data packet 104, or to correct any error occurred therein.

Please amend the paragraph beginning on line 22 of page 24 as follows:

A9

First, by referring to FIG. 5, the processing carried out by the receiving station 1_R is described in detail. The communication controller 11_R sets the transmission probability value P (where P satisfies $0 \leqq P \leqq 1$) to an initial value P_0 (step S1). The initial value P_0 is set in ~~accord~~ accordance with the design specifications of the communication system CS. As to the transmission probability value P, it is later described by referring to steps S134 and S135 in FIG. 9, and is not now described.

Please amend the paragraph beginning on line 6 of page 25 as follows:

A10

Next, the communication controller 11_R sets the number M, which indicates how many request inquiry packets 101 are to be transmitted, to an initial value M_0 (step S2). The initial value M_0 is set in ~~accord~~ accordance with the design specifications of the communication system CS.

Please amend the paragraph beginning on line 21 of page 25 as follows:

A11

Next, the communication controller 11_R judges whether ~~or not~~ any signal (any one of the packets 101 to 104) has arrived from the wireless transmission path 2 via the receiver 15_R (step S32). If no signal has arrived, the procedure goes to later-described step S38. If yes, the communication controller 11_R judges whether ~~or not~~ the unique word UW included in the received signal can be detected. This tells whether ~~or not~~ any communication collision has currently occurred on the wireless transmission path 2 (step S33).

Please amend the paragraph beginning on line 14 of page 26 as follows:

A12

In step S34 (packet disassembly processing), the communication controller 11_R judges whether ~~or not~~ the received signal is the reservation request packet 102 addressed to the receiving station 1_R. To be more specific, the communication controller 11_R extracts the packet type T on the basis of the detected unique word UW. When the packet type T indicates the reservation request packet 102 (see FIG. 4b), the communication controller 11_R then extracts the destination identifier DID so as to judge whether ~~or not~~ the DID is the one provided to the receiving station 1_R.

Please amend the paragraph beginning on line 4 of page 31 as follows:

A13

Second, the communication controller 11_R decides if ~~having~~ there is data for transmission to the selected transmitting station 1_T (step S62). The judgement in step S62 is dependent on if the communication controller 11_R has received, exemplarily from an application in the upper layer, any data for transmission to the transmitting station 1_T selected in step S61.

Please amend the paragraph beginning on line 20 of page 32 as follows:

A14

Next, the communication controller 11_R judges whether ~~or not~~ the data packet 104 (see FIG. 4d) addressed to the receiving station 1_R has arrived from the wireless transmission path 2 via the receiver 15_R (Step S64). As to the reception operation in step S64, it is later described by referring to step S143 in FIG. 10, and is not now described.

Please amend the paragraph beginning on line 1 of page 33 as follows:

A15

When ~~received~~ the data packet 104 addressed to the receiving station 1_R is received, the communication controller 11_R lengthens the valid period VP found in the same set as the selected identifier ID (Step S65). In this embodiment, in step S65, the communication controller 11_R exemplarily decrements the current valid period VP by the given value ΔVP_1 (where ΔVP_1 is an arbitrary number) so as to lengthen the valid period VP.

Please amend the paragraph beginning on line 11 of page 33 as follows:

A16

If ~~not received~~ the data packet 104 addressed to the receiving station 1_R is not received in step S64, the communication controller 11_R judges whether ~~or not~~ a predetermined time T_{PRE2} has elapsed since the communication reservation packet 103 was sent out (step S66).

Please amend the paragraph beginning on line ~~13~~ 16 of page 36 as follows:

A17

After being through with step S6, the communication controller 11_R judges whether ~~or not~~ N pieces of communication reservation packets 103 have been sent out (step S7).

Please amend the paragraph beginning on line 12 of page 37 as follows:

A18

Next, by referring to FIG. 8 for flowchart, ~~it is described in detail how~~ the operation of one transmitting station 1_T ~~is operated to process~~ is described in detail. In FIG. 8, the communication controller 11_T receives data for transmission to a certain communication station 1 (the receiving station 1_R), the transfer rate R necessary for the data transmission, and the identifier ID of the

Cont A18

receiving station 1_R from an application in an upper layer or an interface (step S11), and the procedure goes to step S12.

Please amend the paragraph beginning on line 24 of page 37 as follows:

A19

Further, immediately after step S11 ~~being through~~ is complete, the receiving station 1_R does not yet reserve any bandwidth for the transmitting station 1_T. Accordingly, at this point in time, the valid period VP of the transmitting station 1_T is regarded as having reached the reference value V_{PREF} and being invalid. By taking this into consideration, the initial value C_0 is preferably not less than the reference value V_{PREF} of the valid period VP. More preferably, the initial value C_0 is set to be equal to the reference value V_{PREF}.

Please amend the paragraph beginning on line 6 of page 39 as follows:

A20

Thereafter, the communication controller 11_T judges whether ~~or not~~ the request inquiry packet 101 (see FIG. 4a) is transmitted from the receiving station 1_R through both the wireless transmission path 2 and the receiver 15_T (step S133).

Please amend the paragraph beginning on line 10 of page 39 as follows:

A21

The reception operation in step S133 is described next below. First, when ~~received~~ some signal is received from the wireless transmission path 2, the communication controller 11_T detects the unique word UW included therein. Then, the communication controller 11_T extracts the packet type T subsequent to the unique word UW. If the packet type T indicates the request inquiry packet 101, the communication controller 11_T extracts the source identifier SID. When the source identifier SID coincides with the identifier ID of the receiving station 1R obtained in step S11, the communication controller 11_T regards ~~as received~~ the request inquiry packet 101 as being received from the receiving station 1_R, and the procedure goes to step S134. When the communication controller 11_T regards that the received signal is not the request inquiry packet 101 from the receiving station 1_R, the communication controller discards the received signal and the procedure goes to later-described step S137.

Please amend the paragraph beginning on line 5 of page 40 as follows:

Then, the communication controller 11_T compares the random number RN obtained in step S134 with the transmission probability value P for the judgement whether ~~or not~~ the random number RN satisfies a given criterion (step S135). If satisfied, the communication controller 11_T judges that the transmission of the reservation request packet 102 is permitted, and the procedure goes to step S136. If not satisfied, the procedure returns to step S132 so that the communication controller 11_T starts detecting the no-signal period TP_{NS} and then waits for a new request inquiry packet 101.

Please amend the paragraph beginning on line 15 of page 40 as follows:

The judgement operation in step S135 is exemplarily described next below. The transmission probability value P is the probability of the transmission of the reservation request packet 102 in response to the request inquiry packet 101 received by the transmitting station 1_T. For example, the transmission probability value P of 0.3 indicates that the transmitting station 1_T is allowed to transmit the reservation request packet 102 with a probability of 30%. The random number RN takes any number among 0.1, 0.2 ... 1. If this is the case, the communication controller 11_T compares the generated random number RN with the transmission probability value P so as to judge whether ~~or not~~ $RN \leqq P$ is satisfied. If satisfied, the communication controller 11_T regards that the transmission of the reservation request packet 102 is permitted, and the procedure goes to step S136. If not satisfied, the procedure returns to step S132.

Please amend the paragraph beginning on line 21 of page 41 as follows:

Herein, step S133 is referred to again. When ~~not received~~ the request inquiry packet 101 is not received, the communication controller 11_T judges whether ~~or not~~ the no-signal period TP_{NS} was detected on the wireless transmission path 2 (step S137).

Please amend the paragraph beginning on line 25 of page 41 as follows:

A25

When ~~not detected~~ the no-signal period TP_{NS} is not detected, the communication controller 11_T decides that now is the time to transmit the reservation request packet 102, and the procedure goes to step S136. Then, the communication controller 11_T assembles the reservation request packet 102 in the same manner as the above for transmission to the receiving station 1_R (step S136). The communication controller 11_T is through with the reservation phase in FIG. 8 (step S13), and the procedure goes to step S14.

Please amend the paragraph beginning on line 8 of page 42 as follows:

A26

When ~~not detected~~ the no-signal period TP_{NS} is not detected in step S137, the communication controller 11_T decides that now is not the time to transmit the reservation request packet 102. In this case, the procedure returns to step S132 so that the communication controller 11_T starts detecting the no-signal period TP_{NS} and waits for a new request inquiry packet 101.

Please amend the paragraph beginning on line 6 of page 44 as follows:

A27

When the communication controller 11_T could not receive the communication reservation packet 103 addressed to the transmitting station 1_T in step S141, the procedure goes to later-described step ~~S145~~ S146. On the other hand, when received, the communication controller 11_T so updates the value C of the counter 12_T that the valid period VP controlled in the receiving station 1_R coincides therewith (step S142). In this manner, the value C of the counter 12_T is synchronized with the valid period VP.

Please amend the paragraph beginning on line 8 of page 47 as follows:

A28

Next, the communication controller 11_T judges whether ~~or not~~ the current value C of the counter 12_T is equal to a reference value C_{REF} or more (step S145).

Please amend the paragraph beginning on line 22 of page 47 as follows:

Step S141 in FIG. 10 is referred to again. Immediately after the communication controller 11_T judged that the received signal is not the communication reservation packet 103 addressed to the transmitting station 1_T, the procedure goes to step S146. Thereafter, the communication controller 11_T judges whether ~~or not~~ the data packet 104 (transmitted in step S610) addressed to the transmitting station 1_T has arrived (step S146). Since the reception operation in step S146 is similar to step S64 in FIG. 7 (see FIG. 12b), it is not described again.

Please amend the paragraph beginning on line 11 of page 48 as follows:

On the other hand, when ~~not received~~ the data packet 104 is not received, the communication controller 11_T judges whether ~~or not~~ a predetermined time T_{PRE3} has elapsed since the reservation request packet 102 was transmitted in step S136 (step S147).

Please amend the paragraph beginning on line 20 of page 49 as follows:

In step S15, the communication controller 11_T judges whether ~~or not~~ any data block DB is left for transmission to the receiving station 1_R (step S15). When there is any data block DB being left, the procedure returns to step S13 for the processing in FIG. 9 again. If not, the procedure returns to step S11 so that the communication controller 11_T waits for new data, for example.

Please amend the paragraph beginning on line 5 of page 54 as follows:

After ~~sent out~~ the reservation request packet 102 is sent out in sequence $Seq12_1$, the communication station 1_b goes to the data communication phase in FIG. 10. Assuming that no signal (except the communication reservation packet 103) has been sent out to the wireless transmission path 2 during sequences $Seq12_1$ and $Seq13_1$, the communication station 1_b correctly receives the communication reservation packet 103, which is transmitted in sequence $Seq13_1$, in step S141 carried out immediately after sequence $Seq13_1$. At this time, as is described in the foregoing, the communication station 1_b calculates the second CRC value, and determines that the received packet is the communication reservation packet 103 addressed thereto.

Please amend the paragraph beginning on line 25 of page 54 as follows:

Next, the communication station 1_b decrements the value C of the counter 12_b by ΔC (step S144). If the value ΔC is assumed to be "1" in this example, the value C at this time is "2". Then, the communication station 1_b judges whether ~~or not~~ the current value C of the counter 12_b is equal to the reference value C_{REF} or more (step S145). Since the reference value C_{REF} is "3", the procedure returns to step $S14_1$ so that the communication station 1_b waits for a new communication reservation packet 103.

A 33

Please amend the paragraph beginning on line 5 of page 57 as follows:

A 34

Next, the communication station 1_b decrements the value C of the counter 12_b by ΔC (step S144) so as to update the value to "1". If there is any data for transmission is left, the procedure returns to the reservation phase in step S13 after step S15 in FIG. 8 is ~~through~~ completed.

Please amend the paragraph beginning on line 13 of page 65 as follows:

Still further, in the communication system CS, the transmitting station 1_T and the receiving station 1_R can each obtain the partner's identifier ID for data communication before going through the data communication phase. Also, the transmitting station 1_T judges whether ~~or not~~ the communication reservation packet 103 is addressed thereto according to the first and second CRC values (see FIG. 12a or 12b), while the receiving station 1_R judges whether ~~or not~~ the data packet 104 is addressed thereto according to the first and second CRC values. In this manner, there is no more need to set the source identifier SID and the destination identifier DID to both the communication reservation packet 103 and the data packet 104. Accordingly, it becomes possible to make the packet length shorter, and thus the bandwidths of the wireless transmission path 2 can be more effectively utilized.

A 35